

THE USE OF AUDIO-VISUAL MATERIALS BY TEACHERS  
IN THE SIOUX CITY, IOWA, PUBLIC HIGH  
SCHOOLS AND FACTORS AFFECTING  
THE EXTENT OF THEIR USE

BY

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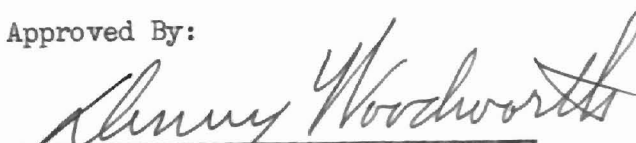
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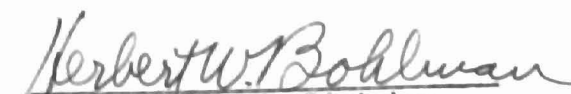
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## TABLE OF CONTENTS

	Page
LIST OF TABLES . . . . .	iv
Chapter	
I.    THE PROBLEM . . . . .	1
Statement of the Problem	
Limitations of the Problem	
The Value of the Study	
The Scope of the Audio-Visual Program	
II.   PROCEDURES . . . . .	9
III.  PRESENTATION OF THE DATA . . . . .	12
Questionnaire Returns	
Use of Audio-Visual Aids	
Relation of Training to Use	
Relation of Teaching Experience to Use	
Relation of Knowledge of Equipment Operation to Use	
Reasons for Limited or Non-Use	
Use of the Aids in Various Subject Areas	
Evidence of Program Improvement	
IV.   SUMMARY AND RECOMMENDATIONS . . . . .	28
Summary	
Recommendations	
APPENDIX . . . . .	32
BIBLIOGRAPHY . . . . .	42

# LIST OF TABLES

Table		Page
1.	Number and Percentage of Questionnaire Returns . . . . .	12
2.	Reported Use and Non-Use of Certain Audio-Visual Aids by Teachers of Sioux City, Iowa, High Schools, 1950 . . .	14
3.	Comparative Use of Certain Audio-Visual Aids by Teachers Trained and Teachers Not Trained in the Use of Such Aids, Sioux City, Iowa, High Schools, 1950 . . . .	15
4.	Training of Teachers in the Use of Audio-Visual Aids, Sioux City, Iowa, High Schools, 1950 . . . . .	16
5.	Number and Per Cent of Trained and Untrained Teachers That Did Not Use Audio-Visual Aids, Sioux City, Iowa, High Schools, 1950 . . . . .	17
6.	The Relation of Approximate Use of Various Types of Audio-Visual Aids by Trained and Untrained Teachers, Sioux City, Iowa, High Schools, 1950 . . . . .	18
7.	Number of Types of Audio-Visual Aids Used by High School Teachers, Sioux City, Iowa, 1950 . . . . .	21
8.	Reasons Various Audio-Visual Aids Were Limited in Use in High Schools, Sioux City, Iowa, 1950 . . . . .	22
9.	Teacher Use of Audio-Visual Aids in the Various Subject- Matter Fields, Sioux City, Iowa, High Schools, 1950 . . .	26
10.	Reasons Various Audio-Visual Aids Were Limited in Use in Leeds High School, Sioux City, Iowa, 1950 . . . . .	38
11.	Reasons Various Audio-Visual Aids Were Limited in Use in Central High School, Sioux City, Iowa, 1950 . . . . .	39
12.	Reasons Various Audio-Visual Aids Were Limited in Use in East High School, Sioux City, Iowa, 1950 . . . . .	40
13.	Number and Percentages of Teachers Who Know How to Operate Various Types of Audio-Visual Equipment in Sioux City, Iowa, High Schools, 1950 . . . . .	41



## CHAPTER I

### THE PROBLEM

One of the more recent developments in the improvement of teaching has been the organization of programs of audio-visual education. While this type of education is not new by any means, it has only been during the past twenty or thirty years that it has received emphasis in the school program. During this period the use of audio-visual aids has demonstrated their value in learning. During World War II the following was stated regarding the value of these aids:

The armed services, educators, and industry pressed into service every type of audio-visual aids--films, recordings, models, graphics--so that men could learn more quickly, learn with all their senses, and learn more through each sense. The Army estimated that training time was cut from 25 to 45 per cent depending upon the course. One tank center was even able to reduce training mechanics from nine months to as many weeks. The Navy claims trainees taught by new audio-visual techniques remember what they learn up to 55 per cent longer. And both Army and Navy found that individuals with no particular gift of tongues, after three months, can talk such difficult languages as colloquial Chinese and Japanese (among some 48 other languages taught in the same length of time).<sup>1</sup>

It then becomes a basic assumption of this study that the use of audio-visual materials is of value to the classroom teacher.

The development of "organized" audio-visual programs has accompanied and contributed to the increased use of these aids. Improved methods of distribution have been worked out by directors of such

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<sup>1</sup>"Army and Navy Training Sets Fast Pace for Nation's Schools," Newsweek, XXIII (June 12, 1944), p. 101.

organized programs. Also, teachers are more conscious of the various types of materials available when an "organized" program is in operation.

This study was designed to assess the functioning of an organized audio-visual program in a school system, and to examine some of the difficulties reported. In the selection of a desirable school system in which to make this study several things were taken into consideration. First, there should already be a program of audio-visual instruction in operation. Second, the system should be large so that contact could be made with a number of teachers. Third, a system which had several different secondary school buildings, that perhaps would present distribution problems, was desired. Sioux City, Iowa, met these requirements and permission was obtained from the administrators to make a study of the program as it operated in those secondary schools.

#### Statement of the Problem

The purpose of this study is to survey an organized audio-visual program that is in the process of being developed in the secondary schools of a large school system. Actual teacher use of these aids should provide information which would give an indication of the status of the program. The difficulties encountered or felt by the teachers in using these aids should provide suggestions of possible improvement of the service offered. A series of questions was devised concerning the problem of this study, the composite picture of which should provide the desired information concerning the program that is surveyed. These questions follow.

1. To what extent are the various (selected) audio-visual aids used by the classroom teacher?

2. What reasons are given most often for not using various types of aids? What clues may be found in their reasons that suggest possible ways of improving the organization of these services?
3. Does college training in the use of audio-visual materials or participation in audio-visual aid workshops affect the classroom use of these aids?
4. Does the number of years of classroom teaching experience affect the use of audio-visual materials?
5. Are there any subject areas that seem to neglect using audio-visual aids?
6. Does the knowledge of equipment (machines) and its operation affect the use of these materials?
7. From examination of the above factors, is it possible to arrive at recommendations which promise to aid in the organization of a more functional audio-visual program within a school?

#### Limitations of the Problem

In this study there are several limitations which are recognized. First, in order to secure desired information, an arbitrary period of time of four weeks was set as a basis for reporting the use of these aids. This period was selected because it was felt that it would provide sufficient time to cover one or more units of study, thereby giving the teachers time to use these aids if they had been included in their planning. Also, the period of time would be short enough that the number of times various aids had been used could be remembered with fair accuracy. Second, the dates limiting the period were also selected arbitrarily. The first four weeks of March were selected because it was neither the first nor the last of a semester and units of study should have been well under way by that time.

It is recognized that these two factors will not permit a fair picture of the use of audio-visual aids by any one teacher over a year's

time; however, the complete composite picture of use by all the teachers should present adequate information for an evaluation of the program.

Third, the varying degree of consideration that various teachers give to the completion of a questionnaire, such as was distributed to collect the needed data, must be recognized as effecting the validity of the study.

### The Value of the Study

The problem of assessing the effectiveness of an audio-visual program is an important one. It is thought that the methods used in this study may prove of benefit to other systems that wish to attempt a similar assessment of their programs. This study may provide suggestions which will be helpful to school people who are in the initial stage of organizing an audio-visual program. It is also hoped that the results of this study may be of value to the Sioux City schools in the administration of their audio-visual program. Interest expressed by the personnel of the Sioux City schools indicates that they would welcome suggestions for the improvement of their program.

The problem of the organization and administration of an audio-visual program has been of particular interest to the writer. The furthering of this interest is in itself considered to be one of the values of this study.

### The Scope of the Audio-Visual Program

#### Definition of Audio-Visual Aids

Because motion pictures are one of the most spectacular, popular, and important of the audio-visual aids, many people have come to think of them as being synonymous with audio-visual education. The nature of Society for the Study of Audio-Visual Education.

audio-visual material is not, however, limited to the use of motion pictures, either silent or sound. The list below prepared by McKown and Roberts will reveal the scope of audio-visual aids.

Blackboard and bulletin board  
 Charts: table, stream and tree, and organization or flow  
 Dramatics: pantomime, playlet, pageant, puppet show, shadow play  
 Flat pictures: photographs, prints, and post cards  
 Graphs: pictorial statistics, bar, line, area, diagram  
 Maps: flat, relief, projection, electric, globe  
 Models, objects, and specimens  
 Motion pictures, silent and sound  
 Phonographs, records, and transcriptions  
 Posters, cartoons, and clippings  
 Radio, dictaphone and loud speaker (classroom)  
 public-address and inter-communicating system  
 Stereoscopes: hand and telebinocular, and stereographs  
 Still pictures: flat-photographs and prints  
 Projected: opaque and daylight, positive transparencies  
 Slides: glass, cellophane, film strip, ceramic  
 Trips, journeys, tours, and visits<sup>1</sup>

Considering the number and variety of audio-visual materials one source gives a definition of them as "any picture, object, or device which provides concrete visual experiences to the learner for the purpose of (1) introducing, building up, enriching or clarifying abstract concepts, (2) developing desirable attitudes, and (3) stimulating further activity on the part of the learner."<sup>2</sup> Dent defines visual-sensory aids as "all materials used in the classroom or other teaching situations, to facilitate the understanding of the written or spoken word."<sup>3</sup> In short, these aids are supplementary devices by which the teacher, through utilization of more than one sensory channel, helps to clarify, establish, and correlate accurate concepts, interpretations, and appreciations.

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<sup>1</sup>H. C. McKown and A. B. Roberts, Audio-Visual Aids to Instruction, p. 2. New York: McGraw-Hill Book Co., 1940.

<sup>2</sup>C. F. Hoban, C. F. Hoban, Jr., and S. B. Zisman, Visualizing the Curriculum, p. 9. New York: The Dryden Press, Inc., 1946.

<sup>3</sup>E. C. Dent, The Audio-Visual Handbook, p. 1. Chicago: The Society for Visual Education, Inc., 1939 (revised).

### Principles Involved in a Successful Program<sup>1</sup>

If an educational program is to provide the best learning situation possible for the children, it becomes necessary for the school or school system to institute a functioning program of audio-visual instruction. In order for such a program to be successful, there are a number of established principles that must be considered. It would seem desirable at this time to bring to mind a few selected principles pertinent to this study before consideration of the material in the following chapters.

It is a fundamental principle that for the development of a program of this nature an intelligent and cooperative faculty is essential. The education of the teachers is important so they will become supporters of the very first step to be undertaken. There are many ways in which the education of the faculty may be promoted. Some of these are: (1) general faculty meetings, (2) reviews of literature on the subject, (3) reports of practices in other schools, (4) talks by experts and competent teachers, (5) visits to other schools, and (6) demonstrations of material and equipment. With the development of faculty interest, the use of audio-visual materials can become an organized part of the school program, making it easier to secure desired expenditures for materials and equipment.

The careful selection of audio-visual aids must be made in order to prevent unfavorable criticism from the teachers, the pupils, and also the taxpayers. Such cries of "fads and frills" would certainly handicap any program of this nature. It is generally considered that a committee of teachers working with a program director is the best method of selecting

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<sup>1</sup>McKown and Roberts, op. cit., pp. 38-52.



new material. It is not considered pertinent here to discuss means and methods of selecting materials; however, they are readily accessible in the many textbooks and articles on the subject.

Teacher preparation is absolutely necessary. For effective classroom use of each audio-visual aid the teacher must be thoroughly familiar with the specific functions of each device and with the possibilities of its use. The important and unimportant elements must be known. How the aid will contribute to the understanding of the present lesson as well as its relation to past and future lessons is also necessary.

For effective use the aid should be appropriate to the age and experience of the pupils. It must be suited to the physical, psychological, intellectual, and social development of the group for which it is used. Here, experimentation by the teachers will help determine which aids fit their particular group of students in their own educational settings.

There also must be some balance in the various types of audio-visual materials used by each teacher. Just what this implies cannot accurately be described. However, it is pointed out by Dent that "The stereograph is valuable for individual study; the stereopticon in socialized recitation; the motion picture in summarizings; and the chart and diagram in presenting abstractions and assisting analysis."<sup>1</sup> It becomes rather apparent that a photograph may appeal to one pupil and not to another, or a working model may bring enthusiasm to one while a motion picture would make little impression. A variety is, therefore, needed to meet the individual differences of pupils within a class. Further, even though an aid was attractive, continued and uninterrupted use of it would soon become monotonous.

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<sup>1</sup>Dent, op. cit., p. 15.

In the past too few aids were used in classroom teaching. Now, however, there is the possibility that too many aids will be used due to the ease with which they are obtained and the desire for some teachers to prove they are "progressive." It should be granted by all that one pointed and pertinent illustration is worth a dozen scattered and unrelated ones, even though they are interesting. A multiplicity of devices does not necessarily represent a well-balanced program.

The very nature of the audio-visual program is such that a director is needed if the program is to operate smoothly and effectively. Because these aids will be used in every grade level and practically every subject field, it is necessary for some one to coordinate their use. In small schools the administration of the program is usually assigned to a teacher while in the larger systems a full time director is employed. Whether the system is large or small the duties of the director remain about the same.

Some of the duties which practically all directors of such programs face are: (1) preparing budgets, (2) buying aids and equipment, (3) securing housing facilities for equipment, (4) devising necessary forms for use and distribution of materials, (5) collecting and classifying material, (6) preparing handbooks and other descriptive material, (7) provide material on rental material, (8) arranging demonstration lessons, (9) supervising preparation of school-produced material, (10) training teachers, (11) educating the community in the values of audio-visual materials, and (12) evaluating the program.



## CHAPTER II

### PROCEDURES

After consideration of several methods by which desired information could be obtained that would aid in assessing an organized audio-visual program it was decided that a questionnaire supplied to each high school teacher in the system would secure the needed data. The questionnaire that was designed contained several parts which would indicate: (1) the use made of various types of audio-visual aids, (2) reasons that may have limited or prohibited the use of these aids, and (3) other factors that may have affected the use of these aids.

The questionnaire, which will be found in the Appendix, was to be answered anonymously. Each item was designed to provide certain data that would be of value in the assessment of an audio-visual program. The various items were judged necessary for the following reasons:

1. The name of the school served to break the school system into its component parts with the expectation that significant difference among the schools might be revealed.
2. The number of years teaching experience was asked to determine the relationship of use of audio-visual aids between teachers with many years experience and those with relatively little experience.
3. The number of years of teaching in the system was asked to determine the relationship of use between the newer and older teachers.
4. The subject taught was asked to help determine the use that was made of audio-visual aids in various subject areas.

5. The periods per week the subject reporting for was taught was designed to determine a relation between subject areas in the use of the aids.
6. and 7. These items indicate the training the teachers have had in the use of audio-visual aids.
8. The relationship between the knowledge of equipment operation and actual use of audio-visual aids was the purpose of this item.
9. The availability of an operator was also asked to determine its effect on the use of the aid.
10. The approximate use of the various aids was desired to determine the extent of use of these aids.
11. Reasons for restricted or non-use will help provide clues for improving the program.

A city school system in which an audio-visual program was in the process of being developed was selected for this study. At the suggestion of Dr. J. James McPherson, Director of Audio-Visual Services, Drake University, a request was sent to Mr. M. T. Nodland, Superintendent of Public Schools, Sioux City, Iowa, for permission to have the high school teachers in that system complete the questionnaire prepared to aid the study. Mr. E. E. Briggs, Director of the Department of Visual Education, responded to this request, indicating his interest and co-operation as well as that of the principals of the three Sioux City high schools. A copy of all correspondence will be found in the Appendix.

Sioux City has a total high school enrollment of 2,735 students who are taught by 116 teachers. These teachers are distributed between three schools as follows: sixty teachers in Central High, thirty-six teachers in East High, and twenty teachers in Leeds High.

The questionnaire was printed and 125 copies were sent to Mr. Briggs, who in turn, distributed them to the principals of the various buildings. The teachers each received a copy and returned it filled out to the office of each respective school by a predetermined date. The principals then returned these completed questionnaires to Mr. Briggs and they in turn were returned to this writer. This manner of distribution and collection of the questionnaire, suggested by Mr. Briggs, was efficient concerning time, effort, and expense; however, it left no way for follow up to those who failed to complete and return the questionnaire.

The remainder of this report will be devoted to the data that were collected from the returned questionnaires with recommendations based on this data for the improvement in the use of audio-visual aids. The details of the handling of various parts of the questionnaire will be described at the time such material is discussed. This material, in many instances, will be treated from the standpoint of each individual high school as well as the combined returns which will represent all the high schools of the Sioux City system.

### CHAPTER III

#### PRESENTATION OF THE DATA

##### Questionnaire Returns

In any report of this nature one of the first steps that must be taken upon receiving the returned questionnaires is to determine whether the percentage of returns is high enough to present valid information. It was found in this study that the highest percentage of returns came from East High, where 66.7 per cent of the questionnaires were returned. Central High was slightly lower with a percentage of 61.7, while a return of 50 per cent was received from Leeds High. The return from the entire system was 61.2 per cent. Originally the total return had been 69.8 per cent; however, examination of the questionnaires revealed that nine had been so incompletely filled out that they could not be used. Table 1 shows the number of classroom teachers for each high school and the number and per cent of questionnaires returned.

TABLE 1

##### NUMBER AND PERCENTAGE OF QUESTIONNAIRE RETURNS

	Leeds	East	Central	Total
Number of Classroom Teachers .....	20	36	60	116
Number of Questionnaires Returned .....	10	24	37	71
Percentage of Returns	50	61.7	66.7	61.2

### Use of Audio-Visual Aids

One of the important factors in the assessment of an audio-visual program should be the determination of the use of various audio-visual aids by the classroom teacher. Table 2 indicates the number and percentage of teachers reporting use for each type of aid listed.

It is seen in this table that the types of audio-visual material that are used by the largest percentage of teachers are: (1) maps and charts, 57.7 per cent; (2) still pictures, 53.3 per cent; (3) objects, models, and specimens, 47.8 per cent; and (4) motion pictures, 42.3 per cent. The other areas of audio-visual aids were used by relatively few teachers--the lowest percentage of which was radio with only 8.5 per cent of the teachers reporting use. It is interesting to note that none of the teachers at Leeds High used radio as an aid to instruction, while maps and charts were used by 70 per cent of these same teachers for the highest percentage of reported use of one aid by any of the schools. From Table 2 it may be seen that no one school uses audio-visual aids consistently to a greater extent than any other.

### Relation of Training to Use

From Table 3 it can be seen that for most of the audio-visual areas trained teachers reported more use than teachers not trained. There are, however, four types of audio-visual aids in which the reported use by non-trained teachers is the greater. The areas in which this occurs are: (1) motion pictures, (2) records and transcriptions, (3) field trips, and (4) objects, models, and specimens. It can also be seen that the use of radio as a media of enriching the classroom teaching has been used only by teachers who have received training. Other areas which are

TABLE 2

REPORTED USE AND NON-USE OF CERTAIN AUDIO-VISUAL AIDS  
BY TEACHERS OF SIOUX CITY, IOWA, HIGH SCHOOLS, 1950

Type of Audio-Visual Aid	School	Aid Used		Aid Not Used	
		No. of Teachers	Per Cent	No. of Teachers	Per Cent
Motion Picture	Leeds	5	50.0	5	50.0
	East	13	54.2	11	45.8
	Central	12	32.4	25	67.6
	Total	30	42.3	41	57.7
Film Strips	Leeds	2	20.0	8	80.0
	East	4	16.7	20	83.3
	Central	7	18.4	30	81.6
	Total	13	18.3	58	81.7
Slides	Leeds	2	20.0	8	80.0
	East	4	16.7	20	83.3
	Central	5	13.5	32	86.5
	Total	11	15.5	60	84.5
Radio	Leeds	0	0	10	100.0
	East	1	4.2	23	95.8
	Central	5	13.5	32	86.5
	Total	6	8.5	65	91.5
Records and Transcriptions	Leeds	4	40.0	6	60.0
	East	6	25.0	18	75.0
	Central	5	13.5	32	86.5
	Total	15	21.1	56	78.9
Wire or Tape Recordings	Leeds	1	10.0	9	90.0
	East	3	12.5	21	87.5
	Central	4	10.8	33	89.2
	Total	8	11.3	63	88.7
Field Trips	Leeds	2	20.0	8	80.0
	East	4	16.7	20	83.3
	Central	3	8.1	34	91.9
	Total	9	12.7	62	87.3
Objects, Models, and Specimens	Leeds	5	50.0	5	50.0
	East	12	50.0	12	50.0
	Central	17	45.9	20	54.1
	Total	34	47.8	37	52.2
Maps and Charts	Leeds	7	70.0	3	30.0
	East	14	58.3	10	41.3
	Central	20	54.1	17	45.1
	Total	41	57.7	30	42.3
Still Pictures	Leeds	6	60.0	4	40.0
	East	16	66.7	8	33.3
	Central	16	43.2	21	56.8
	Total	38	53.5	33	46.5

TABLE 3

COMPARATIVE USE OF CERTAIN AUDIO-VISUAL AIDS BY TEACHERS  
 TRAINED AND TEACHERS NOT TRAINED IN THE USE OF SUCH AIDS,  
 SIOUX CITY, IOWA, HIGH SCHOOLS, 1950

Type of Audio- Visual Aid	School	Trained		Not Trained	
		No.	Per Cent	No.	Per Cent
Motion Pictures	Leeds	3	30.0	2	20.0
	East	4	16.6	9	37.5
	Central	6	16.2	6	16.2
	Total	13	18.3	17	23.9
Film Strips	Leeds	2	20.0	..	....
	East	3	12.5	1	4.2
	Central	5	13.5	2	5.4
	Total	10	14.1	3	4.2
Slides	Leeds	2	20.0	..	....
	East	1	4.2	3	12.5
	Central	3	8.1	2	5.4
	Total	6	8.5	5	7.0
Radio	Leeds	0	....	..	....
	East	1	4.2	..	....
	Central	5	13.5	..	....
	Total	6	8.5	..	....
Records and Transcriptions	Leeds	2	20.0	2	20.0
	East	3	12.5	3	12.5
	Central	1	2.7	4	10.8
	Total	6	8.5	9	12.7
Wire or Tape Recordings	Leeds	1	10.0	..	....
	East	3	12.5	..	....
	Central	2	5.4	2	5.4
	Total	6	8.5	2	2.8
Field Trips	Leeds	1	10.0	1	10.0
	East	1	4.2	3	12.5
	Central	2	5.4	1	2.7
	Total	4	5.6	5	7.0
Objects, Models, and Specimens	Leeds	3	30.0	2	20.0
	East	7	29.2	5	20.8
	Central	6	16.2	11	29.7
	Total	16	22.5	18	25.4
Maps and Charts	Leeds	5	50.0	2	20.0
	East	10	41.7	4	16.7
	Central	14	37.8	6	16.2
	Total	29	40.8	12	16.9
Still Pictures	Leeds	4	40.0	2	20.0
	East	10	41.7	6	25.0
	Central	10	29.7	6	16.2
	Total	24	33.8	14	19.7



used almost exclusively by trained teachers are wire and tape recordings and film strips.

The fact that the percentage of untrained teachers using some of the audio-visual aids is greater than the percentage of trained teachers reporting use is not surprising when it is found that over half of all the teachers have not had audio-visual training. An examination of Table 4 reveals that in every school at least half of the teachers have not received training of any type in the use of these materials.

TABLE 4

TRAINING OF TEACHERS IN THE USE OF AUDIO-VISUAL AIDS,  
SIOUX CITY, IOWA, HIGH SCHOOLS, 1950

School	Teachers Trained		Teachers Not Trained	
	No.	Per Cent	No.	Per Cent
Leeds ....	5	50.0	5	50.0
East .....	11	45.8	13	54.2
Central ..	16	43.2	21	56.8
Total ....	32	45.1	39	54.9

Another aspect of the relation between training and use may be secured from an examination of those teachers who reported no use for each particular audio-visual aid. Table 5 shows the number and percentage of teachers both with and without training who did not use any of the various aids. It will be noted that except for three aids--motion pictures, records and transcriptions, and field trips--the percentage of teachers reporting no use of aids was highest for those with no training. In the three areas mentioned there was a slightly higher percentage of non-use by trained teachers. In one case, that of field



trips, this difference is only 0.3 per cent. This information would seem to indicate that neglect of using these teaching aids was associated with lack of training. It is recognized, however, that some of the teachers may have been reporting for a period of school during which there were no occasions for use of such audio-visual material. This, of course, could apply to both the trained and untrained teachers.

TABLE 5

NUMBER AND PER CENT OF TRAINED AND UNTRAINED  
TEACHERS THAT DID NOT USE AUDIO-VISUAL AIDS,  
SIOUX CITY, IOWA, HIGH SCHOOLS, 1950

Type of Audio-Visual Aid	Trained		Not Trained	
	Number	Per Cent	Number	Per Cent
Motion Pictures .....	19	59.4	22	56.4
Film Strips .....	22	68.7	36	92.3
Slides .....	27	84.3	34	87.2
Radio .....	26	81.3	38	97.4
Records and Transcriptions .....	27	84.3	30	76.9
Wire or Tape Recordings .....	26	81.3	37	94.8
Field Trips .....	28	87.5	34	87.2
Objects, Models, and Specimens .....	16	50.0	21	53.9
Maps and Charts .....	3	09.3	27	69.2
Still Pictures .....	8	25.0	25	64.1

Another comparison of the use made of various audio-visual aids between teachers with training and those without training is derived from the responses to item ten of the questionnaire. In this item the teachers indicated the approximate number of times they had used each type of aid: not used--one to two times, three to five times, six to nine times, and ten times or over. The questionnaires were divided into two groups--those from teachers with training and those from teachers without training--and the responses tallied separately for

each group. In order to secure a numerical total for each type of aid, since only approximate answers were received, numerical values were assigned the columns as follows: one to two times was assigned a value of one and one-half; three to five times, a value of four; six to nine times, a value of seven and one-half; and ten times or over, a value of ten. The tallies in each group for each aid were then multiplied by these values; the total of these products for any one aid then indicated the numerical use of that aid. Thus, it is possible to compare the reported use by teachers with and without training. These data are shown in Table 6 in the column headed "Number of Times Audio-Visual Aids Used."

TABLE 6

THE RELATION OF APPROXIMATE USE OF VARIOUS TYPES OF  
AUDIO-VISUAL AIDS BY TRAINED AND UNTRAINED TEACHERS,  
SIOUX CITY, IOWA, HIGH SCHOOLS, 1950

Type of Audio- Visual Aid	Number of Times Audio- Visual Aids Used		Adjusted Number of Times Audio-Visual Aids Used	
	Trained	Not Trained	Trained	Not Trained
Motion Pictures	67	76	81.7	76
Film Strips ....	40	8	48.8	8
Slides .....	27	20	32.9	20
Radio .....	12	2	14.6	2
Records and Transcriptions	16	55	19.5	55
Wire and Tape Recordings ....	28	14	34.2	14
Field Trips ....	16	11	19.5	11
Objects, Models, and Specimens	135	109	164.2	109
Maps and Charts	230	90	280.6	90
Still Pictures	183	85	223.3	85

These totals for each type of aid do not in themselves, however, offer a good basis for comparing teachers with and without training because the numbers of teachers in these two classes are not the same.

Only 45.1 per cent of teachers have training, while 54.9 per cent have no training. The percentage of those without training is 1.22 times the percentage with training. This factor, when multiplied by the numbers secured from item ten for teachers with training, will produce figures showing use of aids for the two groups of teachers on a comparable basis. These adjusted numbers are shown in Table 6 in the column headed "Adjusted Number of Times Audio-Visual Aids Used."

The over-all picture of use as shown in the "adjusted" column of Table 6 indicates that the untrained teachers used 470 aids while the trained teachers used 920 aids, or almost twice as many. In only one area, that of records and transcriptions, was more use made by the untrained teachers than by those with audio-visual training. In all the other areas, the use of the aids by trained teachers is greater--by a ratio of seven to one in the case of use of radio. These data show that trained teachers make considerable more use of audio-visual material than those not trained.

#### Relation of Teaching Experience to Use

A careful examination of the questionnaire could reveal no significant relationship between the number of years of teaching experience and the amount of use the various types of audio-visual aids received. Perhaps one reason for this is that only nine of the teachers who returned questionnaires had less than ten years of teaching experience, so there were but few inexperienced teachers to use for comparison.

Also, no significant relation could be found between the newer and older teachers of the system and their use of the aids. The teacher turn-over was very low and few teachers were new to the system, making a comparison of no significance.

### Relation of Knowledge of Equipment Operation to Use

With the types of audio-visual material in which the operation of some type of mechanical equipment is necessary, there was no apparent relation with knowledge of operation and the use of the aid. Teachers that had no training in the operation of these aids used them as frequently as those that knew how to operate them. One reason for this probably is that of the seventy-one questionnaires only five indicated that an operator was not always available when it was desired to use these aids. Also, there were indications that some of these aids could not be used in the classroom and that an especially equipped room had to be used. The number and percentage of both those who know how and those who do not know how to operate the equipment will be found in Table 13 in the Appendix.

### Reasons for Limited or Non-Use

It was not expected that teachers would use all types of audio-visual aids listed on the questionnaire during the selected four week period. Eleven teachers reported no use of audio-visual aids; one teacher reported use of eight different kinds of aids. Forty of the seventy-one teachers used two, three, or four aids. These data are presented in Table 7.

This table shows rather limited use of a variety of aids by any particular teacher. It is one of the purposes of this study to determine why the use of some aids may have been limited or what factors may have operated to discourage the use by teachers.

TABLE 7

NUMBER OF TYPES OF AUDIO-VISUAL AIDS USED BY  
HIGH SCHOOL TEACHERS, SIOUX CITY, IOWA, 1950

Types of Aids Used	Number of teachers			
	Leeds	East	Central	Total
0	1	3	7	11
1	1	2	4	7
2	2	4	6	12
3	3	3	7	13
4	..	6	9	15
5	1	2	3	6
6	..	4	1	5
7	1	..	..	1
8	1	..	..	1
9	..	..	..	..
10	..	..	..	..

The second page of the questionnaire was devoted to a check sheet where the teachers could indicate the reasons why they had not used certain types of audio-visual aids, or why other aids may have had limited use. A list of twelve reasons that may apply were given with space for additions in case other reasons were recognized. The total results from all the schools will be found in Table 8. The results from each individual school will not be presented here because the pattern of responses runs very similar in all and would only present a duplication of information. The data from each school will be found in Tables 10, 11, and 12 in the Appendix.

Table 8 indicates that the main reason for not using these various types of aids was that "No material was available on the topics that were studied." This reason is given most frequently in the areas of film strips, slides, radio, records and transcriptions, and wire and tape recordings. These were the same areas that showed little use by teachers in Table 2. Some comments from different teachers also

TABLE 8

REASONS VARIOUS AUDIO-VISUAL AIDS WERE LIMITED IN USE  
IN HIGH SCHOOLS, SIOUX CITY, IOWA, 1950

Reason for Limited Use of the Aids	Motion Pictures	Film Strips	Slides	Radio	Records and Tran- scriptions	Wire or Tape Re- cordings	Field Trips	Objects, Models, & Specimens	Maps and Charts	Still Pictures
No material was available on the topics that were studied.	18	25	25	24	25	21	12	16	11	14
Material was not available at the time desired.	13	6	5	8	6	4	1	2	2	2
Material was available but not adapted to student's maturity level.	4	3	1	2	1	2	..	..	..	..
Material was available but of no special benefit to the class.	5	7	4	4	5	6	6	2	1	3
Equipment for using material was being used by other teachers.	5	..	..	..	1	3	..	..	..	..
Equipment for using material was in need of repair.	3	..	..	..	1	2	..	..	..	..
Equipment is difficult to transport or set up, discourag- ing its use.	5	3	5	1	1	2	..	..	..	..
No equipment is available in school for the use of this aid.	..	1	1	7	..	2	3	2	1	..
School schedule does not per- mit the use of this aid.	2	1	1	2	..	..	11	..	..	..
The classroom is not adapted to the use of this aid.	17	12	14	9	9	8	5	2	2	3
Too much extra work required in securing or preparing this aid.	7	6	6	2	3	3	2	3	2	2
Techniques of using this aid are not familiar to teacher.	5	4	3	1	3	5	2	1	1	1
List any other reason and check where it applies.										
Other:										

emphasize this as being the chief reason for non-use of these materials.

An economics teacher says, "I do not believe material was available."

A teacher of horticulture says there are "no funds for getting special films adapted for use in only one class."

If material is available but unknown to the teachers, it is of no value to the program. That this situation does exist is indicated by such comments as follow. An English teacher writes: "Extreme lack of information as to what helps exist and how to get them." Another English and dramatics teacher who is new to the system has this to say: "My first year here. I'm not sure just what is available in the film library or all the procedures for getting material. I'm just not certain of the system of using audio-visual aids in the Sioux City schools."

The next reason that was given most frequently for not using the various materials was that "the classroom is not adapted to the use of this aid." This applies primarily to those aids that require special facilities for use. A rather vivid description of the lack of classroom facilities is given by a history teacher who said, "The classroom has no electric outlet. The projection room is two floors above my classroom, poorly ventilated, etc. We would make more effort to get films if facilities were better." And a bookkeeping teacher in the same building stated that the "projection room is on fourth floor where it is not convenient to use. Should have portable equipment available for classroom use."

The third reason indicated by the teachers for not using various audio-visual aids was that "material is not available at the time desired." Some comments that were made definitely indicate that this is a problem. A business education teacher commented: "I feel the greatest weakness lies in the fact that the aid is not available at the time when it could be



used to the best advantage." And a vocational homemaking teacher writes: "Material came at the wrong time for maximum value to the class." The best description comes from an English teacher who said, "We have on order 'Patrick Henry's Speech,' but we must take it when it comes, though the material may or may not have been presented. Also, there are other selections that would have been amplified had the films been available during that time."

"Material available but of no special benefit to the class" was the next reason chosen for not using the audio-visual materials. This, of course, could mean any one of several things. It could be that (1) the material was not of the quality or type desired, (2) other means which were perhaps better were used to present material, or (3) the material just did not belong in their area of work at that particular time. It will be noticed that this is almost contrary to the first reason for not using these aids, which was that "no material was available on the topics that were studied." In the light of this information, it would seem probable that better distribution of information regarding available material was necessary along with the securing of better material that will be of benefit to the classes.

The last of the reasons checked by teachers was that the techniques for using this aid are not familiar to the teachers." This can probably be traced to the information that has previously been presented which definitely shows that over half of the high school teachers in the Sioux City system have not had college or workshop training in the use of these aids. This information indicates that many aids are not used when the specific techniques which are necessary are unknown.



### Use of the Aids in Various Subject Areas

By grouping the various subjects into areas, as shown below, the teacher distribution for the number of audio-visual aids used during the selected period can be made. This distribution is shown in Table 9. The purpose of showing this type of distribution is to discover if there are any subject areas that are not using at least some of the various types of audio-visual material. It will be noticed from Table 9 that the areas that have the most teachers using no audio-visual aids are English, mathematics, and commercial subjects. In each case, however, other teachers in the same subject area have used several audio-visual aids. This would perhaps indicate that the teachers who do not use these aids need to realize their value and importance; that they need training in their use; or, that information concerning available material needs better distribution. Whatever the reason, there is an indication that there are some teachers who need help in the use of these materials if the program is to become more effective.

The grouping of the subjects into areas was done as follows:

1. Mathematics: arithmetic, algebra, geometry (plane and solid), and trigonometry.
2. Science: biology, chemistry, hygiene, general science, physics, and horticulture.
3. English: dramatics, journalism, speech, and literature.
4. Languages: Latin, Spanish, and French.
5. Social Science: civics, economics, social problems, and sociology.
6. Music: choral and band.
7. Athletics: physical education.
8. Home Economics: homemaking, textiles, sewing, and foods.

9. Industrial Arts: manual training, auto mechanics, and mechanical drawing.
10. Commercial: typing, shorthand, bookkeeping, retailing, and office machines.
11. Safety Driving.

TABLE 9

TEACHER USE OF AUDIO-VISUAL AIDS IN THE VARIOUS SUBJECT-MATTER FIELDS, SIOUX CITY, IOWA, HIGH SCHOOLS, 1950

Number of Aids Used	English	Science	Mathematics	Language	History	Social Science	Music	Athletics	Home Economics	Industrial Arts	Commercial	Driving
0	3	::	3	::	1	1	::	::	::	::	3	::
1	2	::	2	::	1	1	1	::	::	::	::	::
2	1	::	1	1	1	::	1	1	1	1	2	1
3	1	3	1	1	2	::	::	::	::	2	3	::
4	6	7	::	1	::	::	::	::	1	::	::	::
5	2	2	::	::	::	1	::	::	::	::	1	::
6	1	1	::	1	::	1	::	::	::	1	::	::
7	::	::	::	::	::	1	::	::	::	::	::	::
8	::	::	::	::	::	1	::	::	::	::	::	::
9	::	::	::	::	::	::	::	::	::	::	::	::
10	::	::	::	::	::	::	::	::	::	::	::	::

#### Evidence of Program Improvement

In the Sioux City schools there is indication that some work and planning are being done toward the improvement of the audio-visual program. The willingness to allow this study to be made would point to this. Further evidence comes from the written comments on the questionnaires. To illustrate this, a librarian says:

Our building, including the library, is to be remodeled within the next two or three years and we then hope to have a room connected with the library that will be equipped for the use of audio-visual aids of all kinds. We make a great deal of use of pamphlets, pictures, and maps at the present, as well as clippings. We have

six 4-drawer filing cabinets of pamphlets and 4 cabinets of mounted pictures. There is quite a complete collection of reference books on audio-visual aids as well as the magazine "See and Hear."

Another teacher indicates work is being done toward the improvement of the audio-visual program when he says, "We have not had a chance to review and evaluate all these film strips that are available as yet. We are in the process of doing so." And from another source comes this brief note: "Just making study outlines over to include more visual aids."

The aforementioned reasons, then, seem to indicate that the administration and teachers of the Sioux City high schools are working toward the improvement of the audio-visual program. It is hoped that this paper may be of value to them as they continue to improve the audio-visual program of their school system.

## CHAPTER IV

### SUMMARY AND RECOMMENDATIONS

#### Summary

In this study it was found that the audio-visual areas used most frequently by Sioux City high school teachers were: (1) maps and charts; (2) still pictures; (3) objects, models, and specimens; and (4) motion pictures. The rather apparent lack of use in some areas of audio-visual materials was perhaps related to the fact that less than one-half of the teachers in the system had received training in the use of these aids. There was no apparent relationship between the number of years teaching experience and the use of the aids. Another relationship that was not significant was that between the knowledge of operation of equipment and its use.

One of the more important aspects of this study was revealed when the teachers gave their reasons for the limited use of various aids. The reasons they gave in order of frequency were: (1) no material was available on the topics that were studied; (2) the classroom is not adapted to the use of this aid; (3) material was not available at the time desired; (4) material was available but of no special benefit to the class; and (5) techniques for using this aid are not familiar to the teacher.

A summary of the information that was revealed by this study follows:

1. The types of audio-visual aids that were used by the largest percentage of teachers were: (1) maps and charts, 57.7 per cent; (2) still pictures, 53.3 per cent; (3) objects, models, and specimens, 47.8 per cent; and (4) motion pictures, 42.3 per cent.
2. The other types of audio-visual aids--slides, film strips, radio, records and transcriptions, field trips, and wire and tape recordings--were used by relatively few teachers. Only 8.5 per cent of the teachers reported use of radio, which was the least used.
3. In showing the relation between trained and untrained teachers in the use of audio-visual aids in the classroom, it was definitely determined that the trained teachers used more audio-visual aids than did the untrained teachers. This was determined by three methods: (1) comparing reported use of different types of aids by trained and untrained teachers, (2) comparing percentages of trained and untrained teachers who used no aids of any kind, and (3) comparing the number of times such aid was used by trained and untrained teachers. Use of audio-visual aids by trained teachers was double that of those without training.
4. No significant relationship could be found between the number of years teaching experience and the amount of use the various aids received. This was due to the lack of inexperienced teachers for comparison.
5. Also, no significant relationship could be found between the newer and older teachers of the system and their use of these aids. The reason for this was that the teacher turn-over was low, making few teachers new to the system and thus such a comparison impossible.
6. Teachers' knowledge of the operation of mechanical aids did not seem to be a factor in the use of these aids. One reason for this could be that only five of the seventy-one returned questionnaires indicated that no operator was available when needed. Therefore, it was not necessary for teachers to know how to operate projectors, records, etc., in their classrooms.
7. The five reasons given most often as reasons for limited use of the various types of audio-visual aids were: (1) "No material available on the topics that were studied," (2) "The classroom is not adapted to the use of this aid," (3) "Material was not available at the time desired," (4) "Material available but of no special benefit to the class," and (5) "Techniques for using this aid are not familiar to the teacher."

8. English, mathematics, and commercial subjects were the areas in which teachers most often reported no use of aids. In each of these areas, however, there were some teachers that used several types of aids.

### Recommendations

In view of a recognized need for a good audio-visual program in Sioux City, Iowa, the writer would make a number of suggestions for the improvement of the program, based upon the material presented in the preceding chapters.

In light of the apparent lack of training in the use of audio-visual materials by over half of the teaching staff, the following suggestions are made:

1. The encouragement by the administrators that the members of their faculties enroll in audio-visual courses offered in colleges and universities during the summer.
2. The provision for workshop experience for teachers in the area of audio-visual aids so that a better understanding of the functioning of these aids in the teaching program may be obtained.
3. The provision for demonstration lessons so that the correct use of audio-visual material may be seen and discussed.

The lack of use of any great variety of audio-visual aids by teachers brings forth the following suggestions:

1. Preparation of a handbook or other descriptive material which will indicate the various types of audio-visual aids that are available. It is necessary that this information be kept up-to-date.
2. Information on the procedures for securing materials should be provided for all teachers. The process of obtaining these aids should be as free from "red tape" as possible.
3. Exploration of the possibilities of using such aids as slides, film strips, radio, and wire and tape recordings, for which little use was reported by the teachers, may provide a means for increasing the variety of used audio-visual aids.

Remarks on a number of questionnaires indicated that classroom facilities for using audio-visual aids were not adequate. Suggestions to meet this situation are:

1. To make a survey of the classrooms to see the needs for making them adaptable for the use of audio-visual aids. This may mean the securing of dark shades for the windows, the providing of electrical outlets, the securing of additional bulletin board space, and similar changes or innovations.
2. The consideration of the advantages of portable equipment over that of a "projection room."

The reason indicated most frequently for non-use of various audio-visual aids was lack of material. Suggestions to aid this situation are:

1. Secure additional audio-visual material that can be used in conjunction with the topics being studied.
2. Investigate carefully all new aids before they are acquired making sure that they are needed and that they will be used by the teachers.

Another problem indicated by teachers of Sioux City was that material was not available at the time desired. Suggestions to help this situation are:

1. Study the present method of distributing materials to see if it can be improved.
2. Study the method of scheduling of use of materials and equipment in each building.
3. Investigate the possibility of securing additional material and equipment.



APPENDIX

534-F Miller Street  
Des Moines 15, Iowa  
March 26, 1950

Mr. Marvin T. Nodland  
Superintendent of Public Schools  
Sioux City, Iowa

Dear Mr. Nodland:

The purpose of this letter is to ask your cooperation in a study concerning the use of various types of audio-visual materials by all the classroom teachers of your high schools. The information which I desire may be secured by a prepared questionnaire, a copy of which I have enclosed. The results of this study should give a picture as to the amount and types of audio-visual aids that are being used by your teachers as well as factors which may promote non-use of certain types of material. It is not the purpose of this questionnaire to criticize the practices of any individual teacher. It is, however, intended to be used as a means of evaluation of the entire system. Dr. J. James McPherson, director of the audio-visual services at Drake University, has suggested that your school system has an audio-visual program and that you perhaps would be interested in the results of such a study.

The information that is needed could be obtained by mailing to each teacher of your three high schools a copy of the enclosed questionnaire. A short cover letter would be included and with your permission a statement of your approval and interest in the study. I would like to secure this information shortly after the 31st of March 1950; therefore, I would greatly appreciate an immediate reply to this request.

This study is being made as a partial fulfillment for the degree of Master of Science in Education at Drake University. Your aid in the completion of this work will be most sincerely appreciated.

Respectfully,

Charles J. Chapman



WOODROW WILSON JUNIOR HIGH SCHOOL  
Office of the Principal  
Sioux City 19, Iowa  
March 29, 1950

Mr. Charles J. Chapman  
534-F Miller Street  
Des Moines 15, Iowa

Dear Mr. Chapman:

Superintendent M. T. Nodland has turned your letter of the 26th ins. over to me for reply.

I have conferred with the three senior high school principals in Sioux City, and they have all agreed to work on the questionnaire. If you will send 125 copies to my address with your short cover letter, I will see that they are distributed to the senior high school principals. We will decide on a deadline and ask that the letters be returned to the principals by that time, and then I will send them to you.

I trust that this will be a satisfactory arrangement and that we will get some findings that will be very helpful in the work of our Audio-Visual Department in Sioux City.

Very truly yours,

E. E. Briggs, Director  
Dep't. of Visual Education

EEB:lp

534-F Miller Street  
Des Moines 15, Iowa  
April 4, 1950

Mr. E. E. Briggs, Director  
Department of Visual Education  
Sioux City 19, Iowa

Dear Mr. Briggs:

The cooperation and interest you and your fellow administrators have shown in my proposed study on the use of audio-visual material by your high school teachers is gratefully received and appreciated. The method of distribution mentioned in your letter of March 29, 1950, is very satisfactory and I wish to thank you personally for your extra trouble in the matter.

I have sent the 125 copies you said were needed under separate cover plus a half a dozen extras. Additional copies may be secured if they are needed.

Due to the method of distribution, I will have no way of making a follow-up on the returns of this questionnaire; therefore, it will be necessary to secure a rather high percentage the first time. Possibly you have some method in mind. If not, perhaps a list of teachers in the office of each school could be checked as each teacher turned in a completed form. Those who had not been checked after the deadline could then be reminded that their return was needed for a more complete picture of audio-visual use and services.

The results of this study will be sent to you upon the complete analysis of the data. I sincerely hope that it will prove of value to the department of audio-visual services of your city.

Respectfully yours,

Charles J. Chapman

534-F Miller Street  
Des Moines 15, Iowa

Dear Teacher:

As an experienced classroom teacher will you assist in a study concerning the use of various audio-visual materials by high school teachers? It is hoped that with your cooperation the study may be of definite value to the Sioux City school system in further improvement of audio-visual services.

A simple, self-explanatory form has been enclosed upon which your responses may be checked. Criticism of individual teaching practices is not the purpose of this study. All information identifying persons will be kept in confidence.

This study is being made as a partial fulfillment for the degree of Master of Science of Education at Drake University, Des Moines, Iowa.

Respectfully,

Charles J. Chapman

On the preceding page  
in teaching your class  
number of reasons  
was not used. This  
If such was the case

On the preceding page (in part 10) you have possibly listed one or more audio-visual aids that were not used in teaching your class for the selected four-week period. Below, in the column at the left, are listed a number of reasons why these aids may not have been used. Check (x) the reasons that apply for each aid that was not used. These reasons may also apply to a limitation of use of the various aids during this period; if such was the case, check these also in the appropriate audio-visual column.

Read the complete list below before making any checks.	Motion Pictures	Film Strips	Slides	Radio	Records and Transcriptions	Wire or Tape Recordings	Field Trips	Objects, Models, & Specimens	Maps and Charts	Still Pictures
No material was available on the topics that were studied.										
Material was not available at the time desired.										
Material was available but not adapted to student's maturity level.										
Material was available but of no special benefit to the class.										
Equipment for using material was being used by other teachers.										
Equipment for using material was in need of repair.										
Equipment is difficult to transport or set up, discouraging its use.										
No equipment is available in school for the use of this aid.										
School schedule does not permit the use of this aid.										
The classroom is not adapted to the use of this aid.										
Too much extra work required in securing or preparing this aid.										
Techniques of using this aid are not familiar to teacher.										
List any other reason and check where it applies.										
Other:										

# A Survey on the Use of Audio-Visual Aids in High School Classrooms

1. Name of school \_\_\_\_\_

2. Number of years you have taught in this school system \_\_\_\_\_

3. Number of years you have taught in this school system \_\_\_\_\_  
 4. What subject do you teach? \_\_\_\_\_  
 one in which you have the most classes per week. Variations in grade levels are to be disregarded; i.e., a teacher who teaches 10th, 11th, and 12th grade English counts them all as English for the purpose of this questionnaire.)

5. How many periods per week is the above subject taught? \_\_\_\_\_

6. Have you had any college courses teaching the use of audio-visual aids? Yes \_\_\_\_\_ No \_\_\_\_\_

7. Have you participated in any in-service training; such as, small instructional units, workshops, demonstrations by qualified personnel, lectures, etc.; that have dealt with the use of audio-visual aids in the classrooms? Yes \_\_\_\_\_ No \_\_\_\_\_

8. Do you know how to operate the following kinds of audio-visual equipment?

Types of Equipment	Yes	No
16 mm Sound Projector		
Film Strip Projector		
Opaque Projector		
Wire or Tape Recorder		
Record or Transcription Player		

9. If there are some types of equipment (listed above) you do not know how to operate, is there always a qualified operator available at the time you desire to use such equipment? Yes \_\_\_\_\_ No \_\_\_\_\_

10. Please check (x) for each type of audio-visual material listed the approximate number of times it has been used during the four (4) weeks (March 1 through March 31, 1950) in teaching the subject which you have indicated. Note: count once each time an audio-visual aid was used for any class. Example: if one film were shown to three separate classes it would count three times.

Types of audio-visual aids	Not Used	1-2 Times	3-5 Times	6-9 Times	10 Times or over
Motion Pictures					
Film Strips					
Slides					
Radio					
Records and Transcriptions					
Wire or Tape Recordings					
Field Trips					
Objects, Models, and Specimens					
Maps and Charts					
Still Pictures					

TABLE 10

REASONS VARIOUS AUDIO-VISUAL AIDS WERE LIMITED IN USE  
IN LEEDS HIGH SCHOOL, SIOUX CITY, IOWA, 1950

Reason for Limited Use of the Aids	Motion Pictures	Film Strips	Slides	Radio	Records and Tran- scriptions	Wire or Tape Re- cordings	Field Trips	Objects, Models, & Specimens	Maps and Charts	Still Pictures
No material was available on the topics that were studied.	2	5	4	3	4	3	2	3	2	2
Material was not available at the time desired.	3	1	1	..	1	..	..	..	..	..
Material was available but not adapted to student's maturity level.	1	..	..	..	..	..	..	..	..	..
Material was available but of no special benefit to the class.	1	1	1	1	1	1	2	..	..	..
Equipment for using material was being used by other teachers.	..	..	..	..	..	..	..	..	..	..
Equipment for using material was in need of repair.	1	..	..	..	..	..	..	..	..	..
Equipment is difficult to transport or set up, discouraging its use.	2	1	1	..	..	..	..	..	..	..
No equipment is available in school for the use of this aid.	..	..	..	3	..	1	..	..	..	..
School schedule does not permit the use of this aid.	..	..	..	1	..	..	1	..	..	..
The classroom is not adapted to the use of this aid.	3	3	3	1	1	1	1	1	1	1
Too much extra work required in securing or preparing this aid.	1	1	1	..	..	..	1	..	..	..
Techniques of using this aid are not familiar to the teacher.	1	2	2	1	2	2	1	1	1	1
List any other reason and check where it applies.	..	..	..	1	..	1	1	2	1	..
Other: Not applicable to gym.	..	..	..	1	..	..	..	..	..	..
Not worth changing schedule for.	..	..	..	1	..	..	..	..	..	..

TABLE 11

REASONS VARIOUS AUDIO-VISUAL AIDS WERE LIMITED IN USE  
IN CENTRAL HIGH SCHOOL, SIOUX CITY, IOWA, 1950

Reason for Limited Use of the Aids	Motion Pictures	Film Strips	Slides	Radio	Records and Tran- scriptions	Wire or Tape Re- cordings	Field Trips	Objects, Models, & Specimens	Maps and Charts	Still Pictures
No material was available on the topics that were studied.	9	13	12	14	14	14	6	7	5	8
Material was not available at the time desired.	9	3	3	5	3	3	1	2	1	1
Material was available but not adapted to student's maturity level.	2	2	1	1	1	1	..	..	..	..
Material was available but of no special benefit to the class.	3	4	2	2	2	3	3	2	1	2
Equipment for using material was being used by other teachers.	5	..	..	..	1	1	..	..	..	..
Equipment for using material was in need of repair.	2	..	..	..	1	1	..	..	..	..
Equipment is difficult to transport or set up, discouraging its use.	3	2	4	..	1	1	..	..	..	..
No equipment is available in school for the use of this aid.	..	1	1	3	..	..	1	2	1	..
School schedule does not permit the use of this aid.	2	1	1	..	..	..	6	..	..	..
The classroom is not adapted to the use of this aid.	11	6	8	6	7	6	3	1	1	2
Too much extra work required in securing or preparing this aid.	2	2	2	1	1	1	1	1	1	1
Techniques of using this aid are not familiar to teacher.	3	1	..	..	1	2	..	..	..	..
List any other reason and check where it applies.										
Other: Pictures previously shown at other grade levels.	1	..	..	..	..	..	..	..	..	..
Used when available.	1	1	..	..	..	..	..	..	..	..



TABLE 12

REASONS VARIOUS AUDIO-VISUAL AIDS WERE LIMITED IN USE  
IN EAST HIGH SCHOOL, SIOUX CITY, IOWA, 1950

Reason for Limited Use of the Aids	Motion Pictures	Film Strips	Slides	Radio	Records and Tran- scriptions	Wire or Tape Re- cordings	Field Trips	Objects, Models, & Specimens	Maps and Charts	Still Pictures
No material was available on the topics that were studied.	7	7	9	7	7	4	4	6	4	4
Material was not available at the time desired.	1	2	1	3	2	1	..	..	1	1
Material was available but not adapted to student's maturity level.	1	1	..	1	..	1	..	..	..	..
Material was available but of no special benefit to the class.	1	2	1	1	2	2	1	..	..	1
Equipment for using material was being used by other teachers.	..	..	..	..	..	2	..	..	..	..
Equipment for using material was in need of repair.	..	..	..	..	..	..	..	..	..	..
Equipment is difficult to transport or set up, discouraging its use.	..	..	..	1	..	1	..	..	..	..
No equipment is available in school for the use of this aid.	..	..	..	1	..	1	2	..	..	..
School schedule does not permit the use of this aid.	..	..	..	..	..	..	4	..	..	..
The classroom is not adapted to the use of this aid.	3	3	3	2	1	1	1	..	..	..
Too much extra work required in securing or preparing this aid.	2	1	1	..	1	1	..	1	..	..
Techniques of using this aid are not familiar to teacher.	1	1	1	..	..	1	1	..	..	..
List any other reason and check where it applies.	1	1	..	..	..	..	1	..	..	..
Other: Not adapted to subject.	1	1	..	..	..	..	1	..	..	..
Making study outlines over to include more visual aids.	1	1	..	..	..	..	1	..	..	..
Not enough time to use every thing.	..	1	1	..	..	..	1	..	..	..
Not at the part of the course of study where needed.	..	..	..	..	..	..	..	..	1	..

TABLE 13

NUMBER AND PERCENTAGE OF TEACHERS WHO KNOW HOW TO OPERATE VARIOUS TYPES  
OF AUDIO-VISUAL EQUIPMENT IN SIOUX CITY, IOWA, HIGH SCHOOLS, 1950

Type of Equipment	Leeds						East						Central						Total					
	Can Operate			Can't Operate			Can Operate			Can't Operate			Can Operate			Can't Operate			Can Operate			Can't Operate		
	No.	Per Cent		No.	Per Cent		No.	Per Cent		No.	Per Cent		No.	Per Cent		No.	Per Cent		No.	Per Cent		No.	Per Cent	
16 mm Sound Projector	7	70.0	3	30.0	13	54.2	11	45.8	18	48.4	19	51.6	38	53.5	33	46.5								
Film Strip Projector	6	60.0	4	40.0	15	62.5	9	37.5	20	54.1	17	45.9	41	57.7	30	42.3								
Opaque Projector ....	5	50.0	5	50.0	14	58.3	10	41.7	11	29.7	26	70.3	30	42.3	41	57.7								
Wire or Tape Recorder .....	2	20.0	8	80.0	9	37.5	15	62.5	16	43.2	21	56.8	27	38.0	44	62.0								
Record or Transcription Player ...	2	20.0	8	80.0	13	54.2	11	45.8	22	59.5	15	40.5	28	39.4	43	60.6								

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